Sterigenics.

June 6, 2014

Texas Commission on Environmental Quality
Financial – Administrative Division
Revenue Operations Section
MC-214
12100 Park 35 Circle, Building A, Third Floor
Austin, Texas 78753

Subject: Application Fee: Check for $10,950.00
Sterigenics' Grand Prairie Facility – Permit Number: 51907
Regulated Entity Number (RN): 102864808
Customer Reference Number (CN): 602953481

Dear Sir/Madam:

Here is the application fee required for the permit application for the Sterigenics Grand Prairie location. I have also enclosed a copy of the application and attachments for your reference.

Should you have any questions, please feel free to call me at 630. 928.1768.

Kind Regards,

Susan M. Reinhardt C.S.P.
Manager
Environment, Health and Safety

pc:

Kathy Hoffman – Senior V.P. EHS
Louis Reyes – Grand Prairie, Texas – General Manager
Juan Segovia – V.P. EO Operations
Kevin Wagner – Director EHS

Mr. Tony Walker
Regional Director
US EPA – Region 4
2309 Gravel Drive
Fort Worth, Texas 76118-6951

Mr. Joni Keach
Section Director
Texas Commission on Environmental Quality
Air Pollution Control program
City of Dallas, Environmental and Health Services
320 E. Jefferson Blvd., Room LL13
Dallas, Texas 75203-2632

Attachments:

Copies:

1. Form PI-1, General Application for Air Preconstruction Permit and Amendment
2. Area maps
3. Plot plan for properties
4. Process flow diagram
5. Process description
6. Emissions data and calculations
7. Table 1 (a) – Form 10153

Enclosure: Original check - application fee for $10,950.00.

Professional Engineer Certification

I, Steven H. Ramsey, a registered professional engineer in the State of Texas, Registration No. 69070, certify that I have performed a 3rd party technical review of the attached application, dated June 2014, to amend permit number 51907 prepared by Sterigeics U.S., LLC, personnel. Based upon the information provided by the individuals who prepared the application, in my professional opinion, the facility should perform as represented.

Steven H. Ramsey, PE

June 9, 2014
Date

Texas Commission on Environmental Quality
Table 30
Estimated Capital Cost and Fee Verification

Include estimated cost of the equipment and services that would normally be capitalized according to standard and generally accepted corporate financing and accounting procedures. Tables, checklists, and guidance documents pertaining to air quality permits are available from the Texas Commission on Environmental Quality, Air Permits Division Web site at www.tceq.state.tx.us/nav/permits/air_permits.html.

I. DIRECT COSTS [30 TAC § 116.141(c)(1)]	Estimated Capital Cost
A. A process and control equipment not previously owned by the applicant and not currently authorized under this chapter	$ 800,000
B. Auxiliary equipment, including exhaust hoods, ducting, fans, pumps, piping, conveyors, stacks, storage tanks, waste disposal facilities, and air pollution control equipment specifically needed to meet permit and regulation requirements	$ 25,000
C. Freight charges	$ 0
D. Site preparation, including demolition, construction of fences, outdoor lighting, road and parking areas	$ 30,000
E. Installation, including foundations, erection of supporting structures, enclosures or weather protection, insulation and painting, utilities and connections, process integration, and process control equipment	$ 1,800,000
F. Auxiliary buildings, including materials storage, employee facilities, and changes to existing structures	$ 345,000
G. Ambient air monitoring network	$ 0
II. INDIRECT COSTS [30 TAC § 116.141(c)(2)]	**Estimated Capital Cost**
A. Final engineering design and supervision, and administrative overhead	$ 360,000
B. Construction expense, including construction liaison, securing local building permits, insurance, temporary construction facilities, and construction clean-up	$ 40,000
C. Contractor's fee and overhead	$ 250,000
TOTAL ESTIMATED CAPITAL COST	$ ~~NaN~~ 3,650,000.00

I certify that the total estimated capital cost of the project as defined in 30 TAC § 116.141 is equal to or less than the above figure. I further state that I have read and understand Texas Water Code § 7.179, which defines CRIMINAL OFFENSES for certain violations, including intentionally or knowingly making, or causing to be made, false material statements or representations.

Company Name: Sterigenics U.S., LLC

Company Representative Name (please print): Kathleen Hoffman Title: Senior Vice President - EHS

Company Representative Signature: _____

Estimated Capital Cost		Permit Application Fee	PSD/Nonattainment Application Fee
Less than	$300,000	$900 (minimum fee)	$3,000 (minimum fee)
$300,000 to	$25,000,000	0.30% of capital cost	
$300,000 to	$7,500,000	$10,950.00	1.0% of capital cost
Greater than	$25,000,000	$75,000 (maximum fee)	
Greater than	$7,500,000		$75,000 (maximum fee)

PERMIT APPLICATION FEE (from table above) = $ 10,950.00 Date: May 5, 2014

Texas Commission on Environmental Quality
Form PI-1 General Application for
Air Preconstruction Permit and Amendment

Important Note: The agency requires that a Core Data Form be submitted on all incoming applications unless a Regulated Entity and Customer Reference Number have been issued and no core data information has changed. For more information regarding the Core Data Form, call (512) 239-5175 or go to www.tceq.texas.gov/permitting/central_registry/guidance.html.

I. Applicant Information		
A. Company or Other Legal Name: Sterigenics U.S., LLC		
Texas Secretary of State Charter/Registration Number (if applicable):		
B. Company Official Contact Name: Kathleen Hoffman		
Title: Senior Vice President, Environment, Health and Safety		
Mailing Address: 2015 Spring Road, Suite 650		
City: Oak Brook	State: Illinois	ZIP Code: 60523
Telephone No.: 630.928.1758	Fax No.: 630.928.1701	E-mail Address: Khoffman@sterigenics.com
C. Technical Contact Name: Susan M. Reinhardt		
Title: Manager, Environment, Health and Safety		
Company Name: Sterigenics U.S., LLC		
Mailing Address: 2015 Spring Road, Suite 650		
City: Oak Brook	State: Illinois	ZIP Code: 60523
Telephone No.: 630.928.1768	Fax No.: 630.928.1701	E-mail Address: sreinhardt@sterigenics.com
D. Site Name: Sterigenics, Grand Prairie, Texas		
E. Area Name/Type of Facility: Warehouse		☒ Permanent ☐ Portable
F. Principal Company Product or Business: Ethylene Oxide sterilization of medical devices		
Principal Standard Industrial Classification Code (SIC): 7399		
Principal North American Industry Classification System (NAICS): 561910		
G. Projected Start of Construction Date: July 21, 2014 +/- 2 weeks		
Projected Start of Operation Date: November 28, 2014 +/- 2 weeks		
H. Facility and Site Location Information (If no street address, provide clear driving directions to the site in writing.):		
Street Address: 1252 Avenue T		
City/Town: Grand Prairie	County: Tarrant	ZIP Code: 75050
Latitude (nearest second): 32 41' 25"	Longitude (nearest second): -97 02' 38"	

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I.	**Applicant Information (continued)**	
I.	Account Identification Number (leave blank if new site or facility): TA-4146I	
J.	Core Data Form.	
Is the Core Data Form (Form 10400) attached? If No, provide customer reference number and regulated entity number (complete K and L).		☐ YES ☒ NO
K.	Customer Reference Number (CN): CN602953481	
L.	Regulated Entity Number (RN): RN10284808	
II.	**General Information**	
A.	Is confidential information submitted with this application? If Yes, mark each confidential page confidential in large red letters at the bottom of each page.	☐ YES ☒ NO
B.	Is this application in response to an investigation, notice of violation, or enforcement action? If Yes, attach a copy of any correspondence from the agency and provide the RN in section I.L. above.	☐ YES ☒ NO
C.	Number of New Jobs: None	
D.	Provide the name of the State Senator and State Representative and district numbers for this facility site:	
State Senator: Kelly Hancock		District No.: 9
State Representative: Johnathan Stickland		District No.: 92
III.	**Type of Permit Action Requested**	
A.	Mark the appropriate box indicating what type of action is requested.	
☐ Initial ☒ Amendment ☐ Revision (30 TAC 116.116(e) ☐ Change of Location ☐ Relocation		
B.	Permit Number (if existing): 51907	
C.	Permit Type: Mark the appropriate box indicating what type of permit is requested. *(check all that apply, skip for change of location)*	
☒ Construction ☐ Flexible ☐ Multiple Plant ☐ Nonattainment ☐ Plant-Wide Applicability Limit		
☐ Prevention of Significant Deterioration ☐ Hazardous Air Pollutant Major Source		
☐ Other:		
D.	Is a permit renewal application being submitted in conjunction with this amendment in accordance with 30 TAC 116.315(c).	☐ YES ☒NO

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III. Type of Permit Action Requested *(continued)*		
E. Is this application for a change of location of previously permitted facilities? If Yes, complete III.E.1 - III.E.4.0		☐ YES ☒NO
1. Current Location of Facility (If no street address, provide clear driving directions to the site in writing.):		
Street Address:		
City:	County:	ZIP Code:
2. Proposed Location of Facility (If no street address, provide clear driving directions to the site in writing.):		
Street Address:		
City:	County:	ZIP Code:
3. Will the proposed facility, site, and plot plan meet all current technical requirements of the permit special conditions? If "NO", attach detailed information.		☐ YES ☐ NO
4. Is the site where the facility is moving considered a major source of criteria pollutants or HAPs?		☐ YES ☐ NO
F. Consolidation into this Permit: List any standard permits, exemptions or permits by rule to be consolidated into this permit including those for planned maintenance, startup, and shutdown.		
List: N/A		
G. Are you permitting planned maintenance, startup, and shutdown emissions? If Yes, attach information on any changes to emissions under this application as specified in VII and VIII.		☐ YES ☒ NO
H. Federal Operating Permit Requirements (30 TAC Chapter 122 Applicability) Is this facility located at a site required to obtain a federal operating permit? If Yes, list all associated permit number(s), attach pages as needed).		☐ YES ☒ NO ☐ To be determined
Associated Permit No (s.):		

1. Identify the requirements of 30 TAC Chapter 122 that will be triggered if this application is approved.

☐ FOP Significant Revision ☐ FOP Minor ☐ Application for an FOP Revision

☐ Operational Flexibility/Off-Permit Notification ☐ Streamlined Revision for GOP

☐ To be Determined ☒ None

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III. Type of Permit Action Requested *(continued)*		
H. Federal Operating Permit Requirements (30 TAC Chapter 122 Applicability) *(continued)*		
2. Identify the type(s) of FOP(s) issued and/or FOP application(s) submitted/pending for the site. ***(check all that apply)***		
☐ GOP Issued	☐ GOP application/revision application submitted or under APD review	
☐ SOP Issued	☐ SOP application/revision application submitted or under APD review	
IV. Public Notice Applicability		
A. Is this a new permit application or a change of location application?		☐ YES ☒ NO
B. Is this application for a concrete batch plant? If Yes, complete V.C.1 – V.C.2.		☐ YES ☒ NO
C. Is this an application for a major modification of a PSD, nonattainment, FCAA 112(g) permit, or exceedance of a PAL permit?		☐ YES ☒ NO
D. Is this application for a PSD or major modification of a PSD located within 100 kilometers or less of an affected state or Class I Area?		☐ YES ☒NO
If Yes, list the affected state(s) and/or Class I Area(s).		
List:		
E. Is this a state permit amendment application? If Yes, complete IV.E.1. – IV.E.3.		
1. Is there any change in character of emissions in this application?		☐ YES ☒NO
2. Is there a new air contaminant in this application?		☐ YES ☒ NO
3. Do the facilities handle, load, unload, dry, manufacture, or process grain, seed, legumes, or vegetables fibers (agricultural facilities)?		☐ YES ☒ NO
F. List the total annual emission increases associated with the application ***(List all that apply and attach additional sheets as needed):*** No increase in annual emissions expected.		
Volatile Organic Compounds (VOC): None		
Sulfur Dioxide (SO2): None		
Carbon Monoxide (CO): None		
Nitrogen Oxides (NOx): None		
Particulate Matter (PM): None		
PM 10 microns or less (PM10): None		
PM 2.5 microns or less (PM2.5): None		
Lead (Pb): None		

Hazardous Air Pollutants (HAPs): None
Other speciated air contaminants not listed above:

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V. Public Notice Information *(complete if applicable)*		
A. Public Notice Contact Name:		
Title:		
Mailing Address:		
City:	State:	ZIP Code:
B. Name of the Public Place:		
Physical Address *(No P.O. Boxes)*:		
City:	County:	ZIP Code:
The public place has granted authorization to place the application for public viewing and copying.		☐ YES ☐ NO
The public place has internet access available for the public.		☐ YES ☐ NO
C. Concrete Batch Plants, PSD, and Nonattainment Permits		
1. County Judge Information (For Concrete Batch Plants and PSD and/or Nonattainment Permits) for this facility site.		
The Honorable:		
Mailing Address:		
City:	State:	ZIP Code:
2. Is the facility located in a municipality or an extraterritorial jurisdiction of a municipality? ***(For Concrete Batch Plants)***		☐ YES ☐ NO
Presiding Officers Name(s):		
Title:		
Mailing Address:		
City:	State:	ZIP Code:
3. Provide the name, mailing address of the chief executive and Indian Governing Body; and identify the Federal Land Manager(s) for the location where the facility is or will be located.		
Chief Executive:		
Mailing Address:		
City:	State:	ZIP Code:
Name of the Indian Governing Body:		

Mailing Address:		
City:	State:	ZIP Code:

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V. Public Notice Information *(complete if applicable) (continued)*		
C. Concrete Batch Plants, PSD, and Nonattainment Permits		
3. Provide the name, mailing address of the chief executive and Indian Governing Body; and identify the Federal Land Manager(s) for the location where the facility is or will be located. *(continued)*		
Name of the Federal Land Manager(s):		
D. Bilingual Notice		
Is a bilingual program required by the Texas Education Code in the School District?	☐ YES ☐ NO	
Are the children who attend either the elementary school or the middle school closest to your facility eligible to be enrolled in a bilingual program provided by the district?	☐ YES ☐ NO	
If Yes, list which languages are required by the bilingual program?		
VI. Small Business Classification *(Required)*		
A. Does this company (including parent companies and subsidiary companies) have fewer than 100 employees or less than $6 million in annual gross receipts?	☐ YES ☒ NO	
B. Is the site a major stationary source for federal air quality permitting?	☐ YES ☒NO	
C. Are the site emissions of any regulated air pollutant greater than or equal to 50 tpy?	☐ YES ☒ NO	
D. Are the site emissions of all regulated air pollutants combined less than 75 tpy?	☒ YES ☐ NO	
VII. Technical Information		
A. The following information must be submitted with your Form PI-1 ***(this is just a checklist to make sure you have included everything)***		
1. ☒ Current Area Map		
2. ☒ Plot Plan		
3. ☒ Existing Authorizations		
4. ☒ Process Flow Diagram		
5. ☒Process Description		
6. ☒Maximum Emissions Data and Calculations		
7. ☒ Air Permit Application Tables		
a. ☒ Table 1(a) (Form 10153) entitled, Emission Point Summary		

b.	☐ Table 2 (Form 10155) entitled, Material Balance	
c.	☐ Other equipment, process or control device tables	
B.	Are any schools located within 3,000 feet of this facility?	☐ YES ☒ NO

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VII. Technical Information			
C. Maximum Operating Schedule:			
Hour(s): 24 hours/day	Day(s): 365 days/year	Week(s): 52/year	Year(s): 10 year lease
Seasonal Operation? If Yes, please describe in the space provide below.			☐ YES ☒ NO
D. Have the planned MSS emissions been previously submitted as part of an emissions inventory?			☐ YES ☒ NO
Provide a list of each planned MSS facility or related activity and indicate which years the MSS activities have been included in the emissions inventories. Attach pages as needed.			
E. Does this application involve any air contaminants for which a disaster review is required?			☐YES ☒ NO
F. Does this application include a pollutant of concern on the Air Pollutant Watch List (APWL)?			☐ YES ☒ NO
VIII. State Regulatory Requirements **Applicants must demonstrate compliance with all applicable state regulations to obtain a permit or amendment.** *The application must contain detailed attachments addressing applicability or non applicability; identify state regulations; show how requirements are met; and include compliance demonstrations.*			
A. Will the emissions from the proposed facility protect public health and welfare, and comply with all rules and regulations of the TCEQ?			☒ YES ☐ NO
B. Will emissions of significant air contaminants from the facility be measured?			☒ YES ☐ NO
C. Is the Best Available Control Technology (BACT) demonstration attached?			☒ YES ☐ NO
D. Will the proposed facilities achieve the performance represented in the permit application as demonstrated through recordkeeping, monitoring, stack testing, or other applicable methods?			☒ YES ☐ NO
IX. Federal Regulatory Requirements **Applicants must demonstrate compliance with all applicable federal regulations to obtain a permit or amendment.** *The application must contain detailed attachments addressing applicability or non applicability; identify federal regulation subparts; show how requirements are met; and include compliance demonstrations.*			
A. Does Title 40 Code of Federal Regulations Part 60, (40 CFR Part 60) New Source Performance Standard (NSPS) apply to a facility in this application?			☒ YES ☐ NO
B. Does 40 CFR Part 61, National Emissions Standard for Hazardous Air Pollutants (NESHAP) apply to a facility in this application? **40 C.F.R. Subpart O—Ethylene Oxide Emissions Standards for Sterilization Facilities**			☐ YES ☒ NO

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IX.	**Federal Regulatory Requirements** **Applicants must demonstrate compliance with all applicable federal regulations to obtain a permit or amendment.** *The application must contain detailed attachments addressing applicability or non applicability; identify federal regulation subparts; show how requirements are met; and include compliance demonstrations.*	
C.	Does 40 CFR Part 63, Maximum Achievable Control Technology (MACT) standard apply to a facility in this application?	☐ YES ☒ NO
D.	Do nonattainment permitting requirements apply to this application?	☐ YES ☒NO
E.	Do prevention of significant deterioration permitting requirements apply to this application?	☐ YES ☒ NO
F.	Do Hazardous Air Pollutant Major Source [FCAA 112(g)] requirements apply to this application?	☐ YES ☒ NO
G.	Is a Plant-wide Applicability Limit permit being requested?	☐ YES ☒ NO
X.	**Professional Engineer (P.E.) Seal**	
Is the estimated capital cost of the project greater than $2 million dollars?		☒ YES ☐ NO
If Yes, submit the application under the seal of a Texas licensed P.E.		
XI.	**Permit Fee Information**	
Check, Money Order, Transaction Number ,ePay Voucher Number:	Fee Amount: $ 10,950.00	
Paid online?		☐ YES ☒ NO
Company name on check: Sterigenics U.S., LLC		
Is a copy of the check or money order attached to the original submittal of this application?		☒ YES ☐ NO ☐ N/A
Is a Table 30 (Form 10196) entitled, Estimated Capital Cost and Fee Verification, attached?		☒YES ☐ NO ☐ N/A

XII. Delinquent Fees and Penalties

This form will not be processed until all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ is paid in accordance with the Delinquent Fee and Penalty Protocol. For more information regarding Delinquent Fees and Penalties, go to the TCEQ Web site at: www.tceq.texas.gov/agency/delin/index.html.

XIII. Signature

The signature below confirms that I have knowledge of the facts included in this application and that these facts are true and correct to the best of my knowledge and belief. I further state that to the best of my knowledge and belief, the project for which application is made will not in any way violate any provision of the Texas Water Code (TWC), Chapter 7, Texas Clean Air Act (TCAA), as amended, or any of the air quality rules and regulations of the Texas Commission on Environmental Quality or any local governmental ordinance or resolution enacted pursuant to the TCAA I further state that I understand my signature indicates that this application meets all applicable nonattainment, prevention of significant deterioration, or major source of hazardous air pollutant permitting requirements. The signature further signifies awareness that intentionally or knowingly making or causing to be made false material statements or representations in the application is a criminal offense subject to criminal penalties.

Name:

Signature:_____

Original Signature Required

Date:

VII. Technical Information

5. Process Description

Currently, the Grand Prairie facility runs a "Cycle One" sterilization process exclusively. Each sterilization chamber is used to complete sterilization of the product with Ethylene Oxide (EO). The product is aerated inside the chamber at the end of the cycle to minimize EO residuals in the product. All EO used throughout the cycle is emitted through a vacuum pump to the wet scrubber. Essentially 100% of the EO emitted in the current process goes to the scrubber.

Due to local business changes, the conversion to a traditional sterilization process will best meet our growing needs and require the need to construct a new aeration room, back vents for each of the 5 sterilization chambers and a catalytic oxidizer emission control system. This type of emission control system is necessary due to the very low quantities of emissions from the aeration room and back vents.

The existing emission sources (i.e.: the two boilers, storage tanks and the wet scrubber) currently listed in our permit are not changing as a result of this permit request. Fugitive emissions of ethylene oxide occurring during the transfer of product from sterilization to the aeration room is expected to be minimal and within the limits currently authorized for building fugitives (EPN FUG-1). In addition, site changes will not increase the amount of EO used nor are overall emissions expected to increase, which is described in further detail below.

Facility Operations:

Receiving: Materials for sterilization arrive at Sterigenics on pallets. When stacked materials arrive, they are placed on pallets for transport through the facility. Sterilization is performed on palletized product, approximately 40" x 48" x 60" in volume.

Unprocessed Storage: When product is received from a manufacturer, it is placed in an unprocessed holding area. Sterilization lots are configured to meet the F.D.A.-validated sterilization cycle for a certain sterilizer. Lot sizes can be no larger than the sterilizer.

Sterilizer: To utilize a sterilization chamber for medical sterilization, a validated cycle of the chamber must be conducted with test medical products before sterilization and subsequent use of the medical products.

When scheduled, the "lot" is placed into the sterilizer, where the products are sterilized using the chamber vacuum (below atmospheric pressure) process. All vacuum pump exhausts from the sterilizers flow to the acid/wet scrubber.

The typical in-chamber sterilization cycle consists of four phases:
1. Pre-sterilization conditioning
2. Sterilization
3. Evacuation
4. Air Wash

Pre-sterilization Conditioning: When scheduled, product is loaded into the sterilizing chamber. The sterilizer is closed using a stainless steel door with an airtight seal; a partial vacuum is then drawn inside the chamber. This initial vacuum, or "draw down", prevents dilution of the sterilant gas. Chamber pressure is reduced to a vacuum pressure of half an atmosphere or less. The initial draw down takes from 10 to 45 minutes, depending on the product being sterilized. Chamber temperature is then adjusted to between 90° F and 130° F, in conjunction with humidification. Proper humidification is important to the process because the susceptibility of micro-organisms to the sterilant gas is increased under moist conditions. Usually, the relative humidity is above 40% via adding steam, expressed more often as inches of steam.

Sterilization: The sterilant gas is supplied as a liquid, is vaporized and introduced into the chamber. The pressure is held between 4 to 6 hours depending on the temperature, pressure, humidity level, and products being sterilized. This is the only time EO is injected into the chamber.

Evacuation: Following sufficient exposure time, within the FDA-validated cycle parameters, the sterilant gas is evacuated from the chamber using a vacuum pump.

Air Wash: The pressure in the chamber is raised to atmospheric pressure by introducing either air or nitrogen. The combination of evacuation and air wash phases is repeated to remove the sterilant gas from the product.

Related sterilizer evacuation tests show approximately 95% of sterilant gas has been removed via vacuum pump and multiple air/nitrogen washes to the wet scrubber.

Post Sterilization/Aeration: Following sterilization, products are loaded onto forklifts and transferred to the aeration room. The sterile products are placed in this heated air room to allow diffusion of any residual sterilant gas from the products prior to quarantine or shipping. The sterile products are maintained in the aeration rooms for approximately 18 to 24 hours. In Grand Prairie, this post-production storage area would be located in the leased warehouse aeration area located at 1252 Avenue T.

Post Aeration/Shipment: Following aeration, the product is moved to a post-production or post-aeration storage area where it awaits shipment to the customer.

Emission – Material Balance: Converting to a traditional sterilization process will change our mass balance of emissions from the sources, but does not increase the amount of EO used nor increase the amount of emissions generated from the overall process. The new balance of emissions will be decreased from the existing facility since aeration would no longer occur in the chamber. The new mass balance of emissions will be: 95% of EO used through chamber to scrubber, 4% from aeration to catalytic oxidizer, and 1% from back vents to catalytic oxidizer. (See attached: **4. Process Flow Diagram**).

Current Cycle One Process:			
Emission Source:	**Location:**	**Mass Balance of EO Emissions:**	**Emission Control:**
Sterilization Chamber(s)	1302 Avenue T (Existing)	100%	Wet Scrubber (1302 Avenue T)

Future Traditional Process:			
Sterilization Chamber(s)	1302 Avenue T	95%	Wet Scrubber
Aeration Room	1252 Avenue T (leased warehouse)	4%	Catalytic Oxidizer (1302 Avenue T)
Chamber Back vent(s)	1302 Avenue T	1%	Catalytic Oxidizer

1. **New Emissions**: The installation of the aeration room will be new to the leased property, therefore defining the EO emissions as "new" for this address. Sterigenics has made arrangements to lease 25,000 square feet of building space at 1252 Avenue T, Suite A in Grand Prairie, Texas from Duke Realty through July 31, 2024. The aeration room emission will be ducted to the new catalytic oxidizer on the 1302 property.

2. **Interconnection of the two Properties:** The back vent emissions generated on the existing property will be ducted and treated by the new catalytic oxidizer planned for construction on our existing property. A corridor will be constructed between the two facilities to transport product via forklift. The two facilities will be interconnected and operating as one process, under the same management and operating staff.

3. **Control of Leased Property and Emissions:** All equipment installed and operations on the leased property will be under the control and ownership of Sterigenics.

Under normal operations there are no emissions expected associated with maintenance, startup and shutdown activities. The new facility will comply with all applicable requirements of the EPA regulations on National Emission Standards for Hazardous Air Pollutants (NESHAP) for source categories in 40 CFR Part 63, Subpart A General Provisions and Subpart O Ethylene Oxide Emission Standards for Sterilization Facilities.

Best Available Control Technology (BACT) Review

The catalytic oxidizer proposed for this project will meet current NESHAP requirements contained in § 63.362(d) of 40 C.F.R. Subpart O—Ethylene Oxide Emissions Standards for Sterilization Facilities. These requirements require that each operator of a sterilization source using 10 tons shall control ethylene oxide (EO) emissions to the to the atmosphere from each aeration room vent to a maximum concentration of 1 ppmv or by at least 99 percent, whichever is less stringent. The current TCEQ BACT Requirements for a catalytic oxidizer is 98% destruction or 20 ppmv outlet concentration. Therefore, the catalytic oxidizer installed for this project will meet TCEQ BACT requirements.

Emission -Material Balance Calculations - Grand Prairie, Texas Facility

Updated 06.06.14

EtO Usage (2013):	426,754 lb/yr
Permit EtO Usage:	891,000 lb/yr

		Untreated Emissions: Normal	Untreated Emissions: Max		Treated Emissions: Normal	Treated Emissions: Max		Avg Emisssions (#/hr) Normal	Avg Emisssions (#/hr) Max		Location
Sterilizer Emissions: (95% EtO)	EtO	405,416	846,450	lb/yr	4,054.2	8,464.5	lb/yr	0.463	0.966	lb/hr	1302 Aveune T
Aeration Emissions: (4% EtO)	EtO	17,070	35,640	lb/yr	170.7	356.4	lb/yr	0.019	0.041	lb/hr	1252 Avenue T
Backvent Emissions: (1% EtO)	EtO	4,268	8,910	lb/yr	42.7	89.1	lb/yr	0.005	0.010	lb/hr	1302 Avenue T
Total Emissions:	EtO	426,754	891,000	lb/yr	4,267.5	8,910.0	lb/yr	0.5	1.0	lb/hr	

EtO Usages and Emissions - Sterilization Chambers

			Sterilzr EtO Charge		Sterilzr EtO Charge		Sterilzr EtO Charge		Sterilzr EtO Emssions		Sterilzr EtO Emssions		Max Sterlzr EtO Emsns	
Source Code	Description	# of pallets	EtO lb/pallet/yr normal	EtO lb/pallet/yr Max	EtO lb/chamber/yr normal	EtO lb/chamber/yr Max	EtO lb/chamber/hr normal	EtO lb/chamber/hr Max	Emiss.(EtO#/chmbr/yr) normal	Emiss.(EtO#/chmbr/yr) Max	AvgEmis(EtO#/chmb/hr) normal	AvgEmis(EtO#/chmb/hr) Max	MaxEmis(EtO#/chbr/hr) normal	MaxEmis(EtO#/chbr/hr) Max
R1	Ster. Chamber	30	2845	5940	85351	178200	9.74	20.34	81083	169290	9.26	19.33	92.56	193.25
R2	Ster. Chamber	30	2845	5940	85351	178200	9.74	20.34	81083	169290	9.26	19.33	92.56	193.25
R3	Ster. Chamber	30	2845	5940	85351	178200	9.74	20.34	81083	169290	9.26	19.33	92.56	193.25
R4	Ster. Chamber	30	2845	5940	85351	178200	9.74	20.34	81083	169290	9.26	19.33	92.56	193.25
R5	Ster. Chamber	30	2845	5940	85351	178200	9.74	20.34	81083	169290	9.26	19.33	92.56	193.25
	Total	150			426754	891000			405416	846450	46.28	96.63	462.80	966.27

Assumptions:

1. 95% of all emissions are drawn off in the sterilization chamber.
2. 4% of all emissions are drawn off in the aeration room .
3. To assess Max chamber rate, assume all gas injected is drawn off in 1 hour. The average cycle is 10-hours.
4. The scrubber's destruction efficiency is assumed to be 99%.
5. 1% of all emissions are drawn off from the chamber backvents.
6. The oxidizer's destruction efficiency is assumed to be 99%.

Air Pollution Source Testing:

On October 30, 2013, EtO source testing was performed at the Grand Prairie Sterigenics facility in accordance with the procedures outlined in USEPA CFR40, Part 63.365. EtO emissior monitoring was conducted simultaneously at the inlet and at the outlet of the packed tower scrubber during the sterilizer vacuum vent (exhaust) phase of three of the five sterilizers, simult A total of three exhaust-phase test runs were performed. The full report of the performance test was sent to TCEQ on January 3, 2014. for the three test runs performed, the packed towe was found to have an average EtO control efficiency of 99.979 percent for the sterilizer vacuum vent phase. In accordance with safe and federal requirements, discharge streams must b control equipment with an EtO emission-reduction efficiency of at least 99 percent by weight for sterilizer vacuum vent. The emission-control device met this requirement.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Table 1(a) Emission Point Summary

Date: June 6, 2014	**Permit No.:** 51907	**Regulated Entity No.:** RN102864808
Area Name: Sterilization Process		**Customer Reference No.:** CN602953481

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

AIR CONTAMINANT DATA					
1. Emission Point			**2. Component or Air Contaminant Name**	**3. Air Contaminant Emission Rate**	
(A) EPN	**(B) FIN**	**(C) Name**		**(A) Pound Per Hour**	**(B) TPY**
SCRBR-01	SCRBR-01	Wet Acid Scrubber	EtO	0.966	4.23
FUG-1	FUG-1	Building Fugitives	EtO	0.07	0.31
CO-1 *(New)*	CO-1 *(New)*	Catalytic Oxidizer*	EtO	~0.05	~0.22
TKS	TKS	Storage Tanks	EtO	0.01	0.01
BLR-1	BLR-1	Boiler No.1 Stack	VOC	0.02	0.10
			NOx	0.21	0.92
			SO_2	<0.01	0.01
			PM	0.03	0.14
			PM_{10}	0.03	1.54
			CO	0.35	0.10
BLR-2	BLR-2	Boiler No. 2 Stack	VOC	0.02	0.92
			NOx	0.21	0.01
			SO_2	<0.01	0.14
			PM	0.03	1.54
			PM_{10}	0.03	0.10
			CO	0.35	0.01

*** Unit has not been purchased – please note information is estimated.**

EPN = Emission Point Number
FIN = Facility Identification Number

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

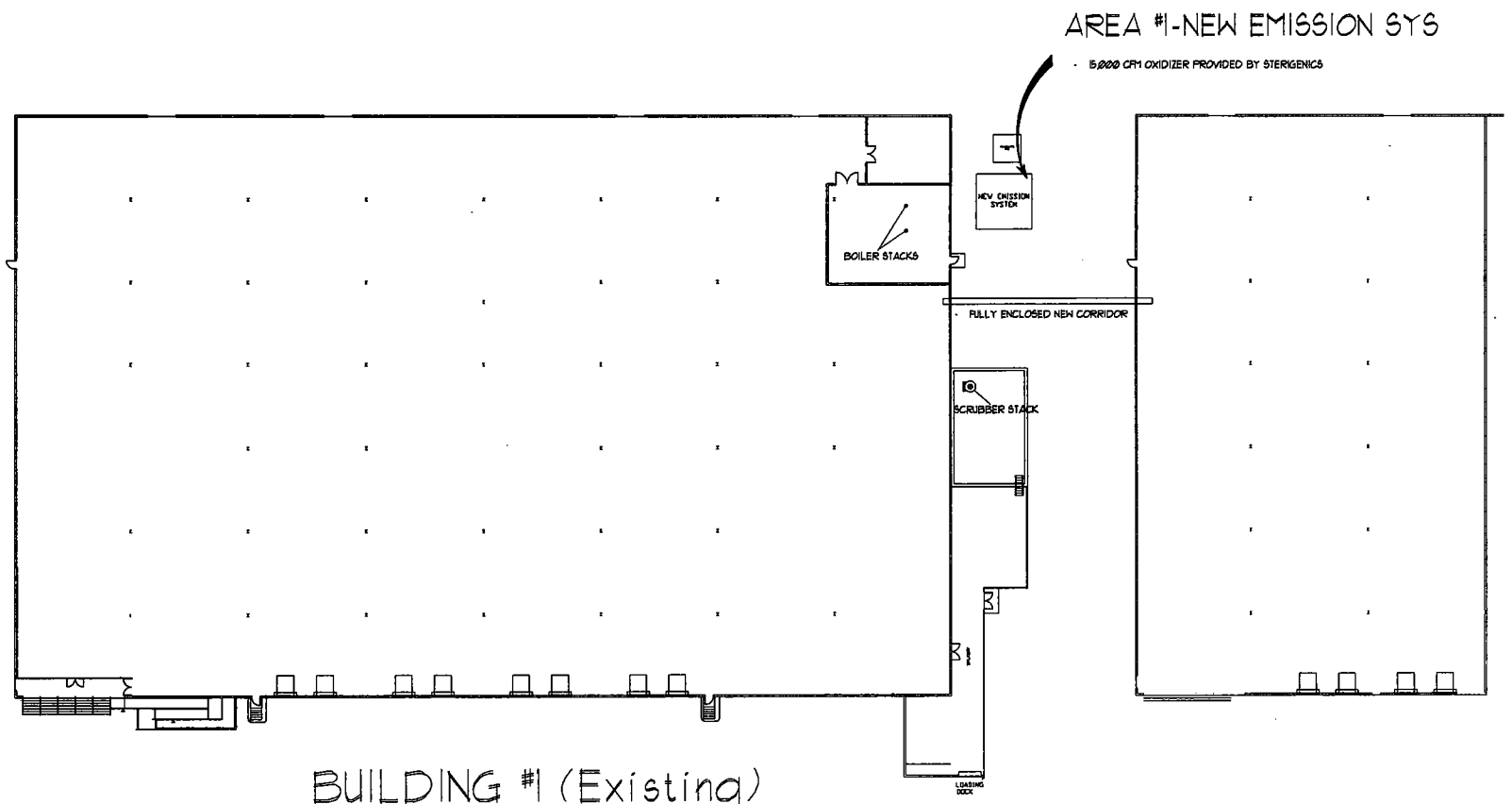
Table 1(a) Emission Point Summary

Date: June 6, 2014	**Permit No.:** 51907	**Regulated Entity No.:** RN102864808
Area Name: Grand Prairie Texas – Ethylene Oxide Sterilization Facility and Warehouse		**Customer Reference No.:** CN602953481

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

AIR CONTAMINANT DATA						**EMISSION POINT DISCHARGE PARAMETERS**							
1. Emission Point			**4. UTM Coordinates of Emission Point**			**Source**							
						5. Building Height (Ft.)	**6. Height Above Ground (Ft.)**	**7. Stack Exit Data**			**8. Fugitives**		
(A) EPN	**(B) FIN**	**(C) NAME**	**Zone**	**East (Meters)**	**North (Meters)**			**(A) Diameter (Ft.)**	**(B) Velocity (FPS)**	**(C) Temperature (°F)**	**(A) Length (Ft.)**	**(B) Width (Ft.)**	**(C) Axis Degrees**
SCRBR1	SCRBR1	Wet Acid Scrubber				24'	52'- 7"	1.33	4.85	95	N/A	N/A	N/A
FUG-1	FUG-1	Building Fugitives				24'	N/A	N/A	N/A	N/A	335'- 4"	210'	N/A
CO-1 *New*	CO-1 *New*	Catalytic Oxidizer*				~28'	~31'	~3.33	~28.66	~80	N/A	N/A	N/A
TKS	TKS	Storage Tanks				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BLR-1	BLR-1	Boiler No.1 Stack				24'	31'	10	44.5	350	N/A	N/A	N/A
BLR-2	BLR-2	Boiler No. 2 Stack				24'	30'	10	44.5	310	N/A	N/A	N/A

*** Unit has not been purchased – please note information is estimated.**
EPN = Emission Point Number
FIN = Facility Identification Number



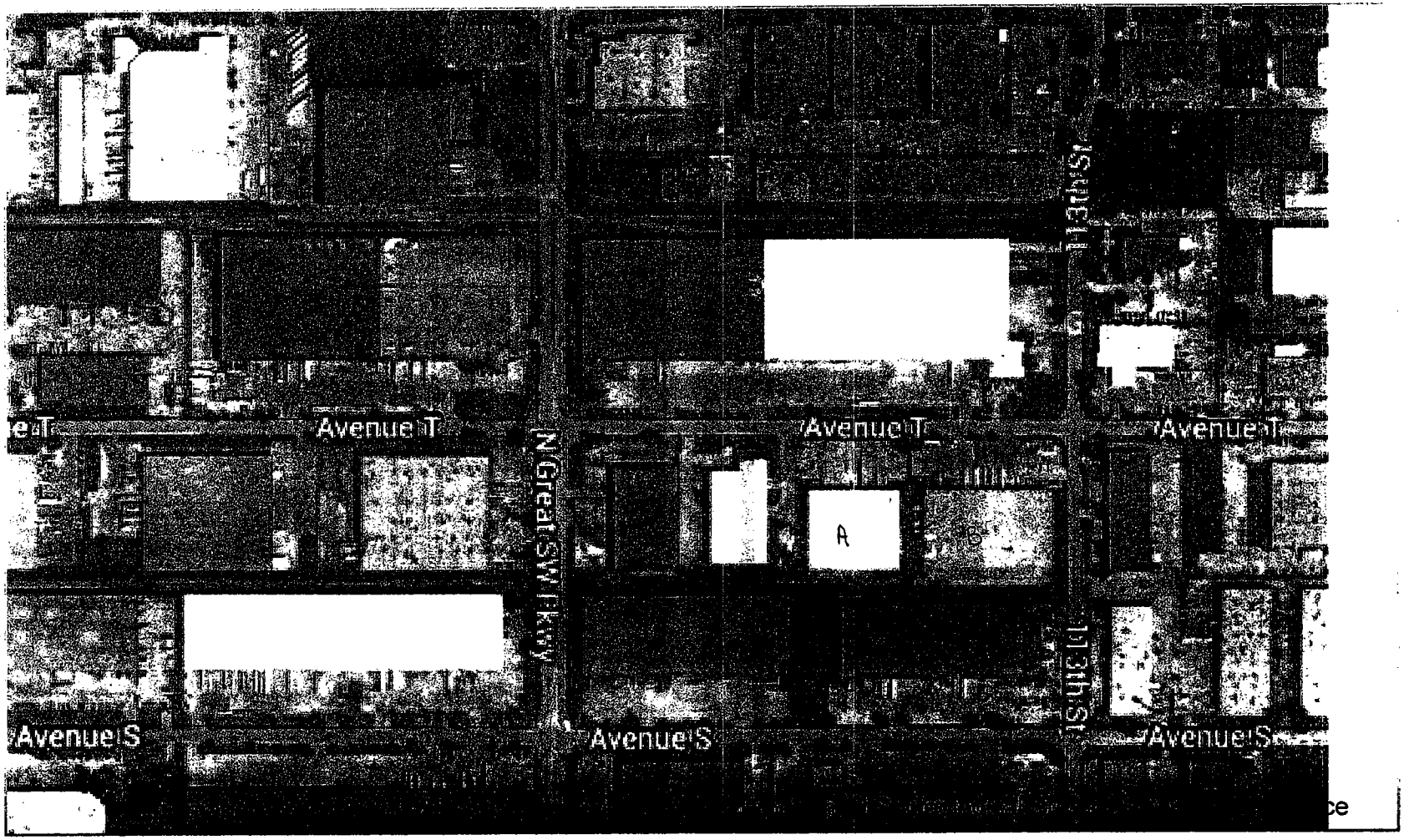
TRUE NORTH
SCALE: 1/16"=1'-0"

THIS DRAWING TO BE CONSIDERED
PROPRIETARY AND CONFIDENTIAL

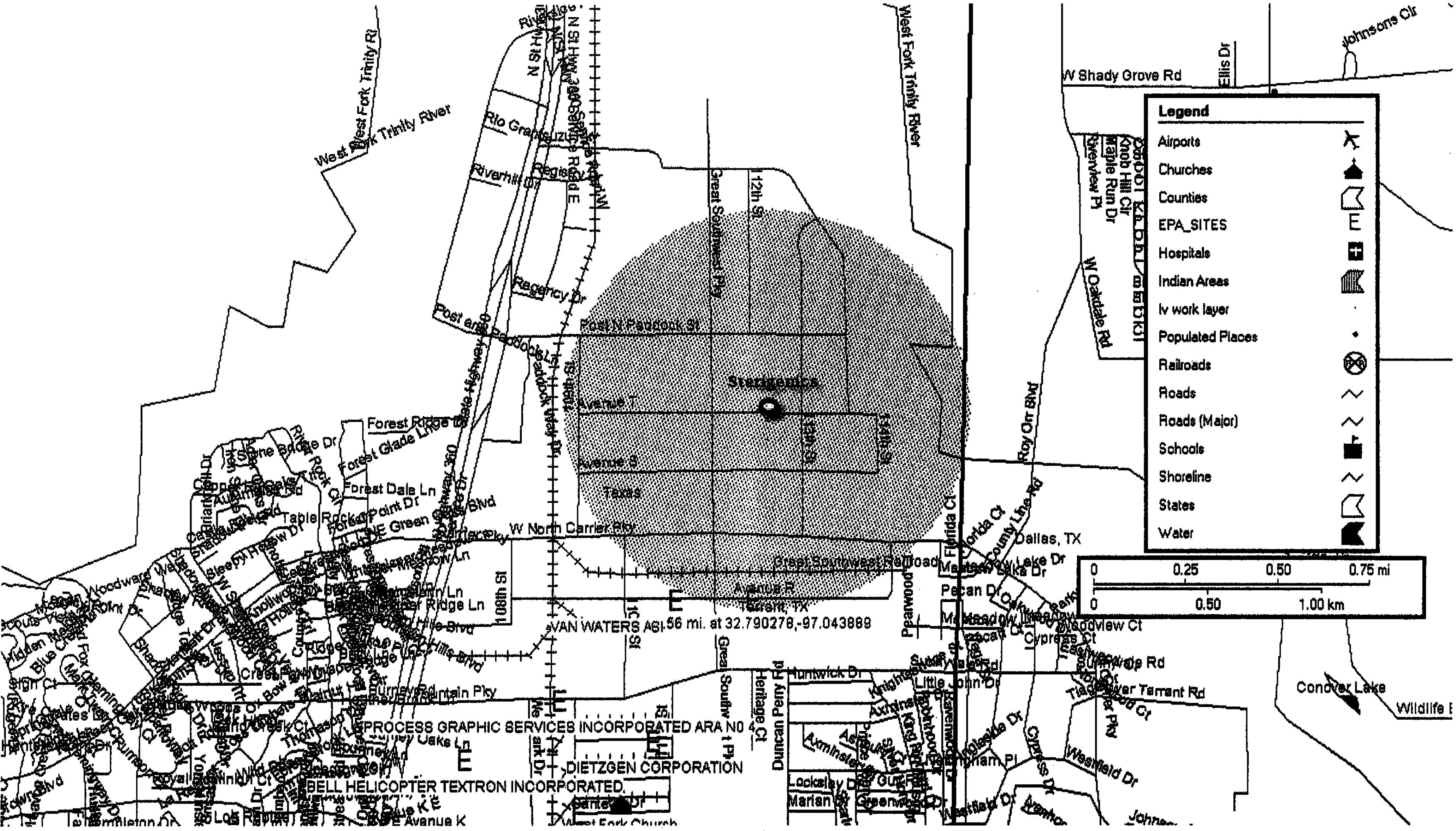
1 or A	X					XX/XX/X
REV	REVISION DESCRIPTION					DATE
SUBJECT DESCRIPTION: GRAND PRAIRIE EXPANSION					Sterigenics	
CAD FILE LOCATION: ENG\FAC\XXX						
DRAWN BY: AK	DATE: 27MAY14	APPROVED BY: XXX	DATE: XX/XX/XX	SCALE: 1=1	DRAWING NO. X	REV X

A = 1252 Avenue T - Sterigenics leased Warehouse
B = 1302 Avenue T - Sterigenics, existing location

Google

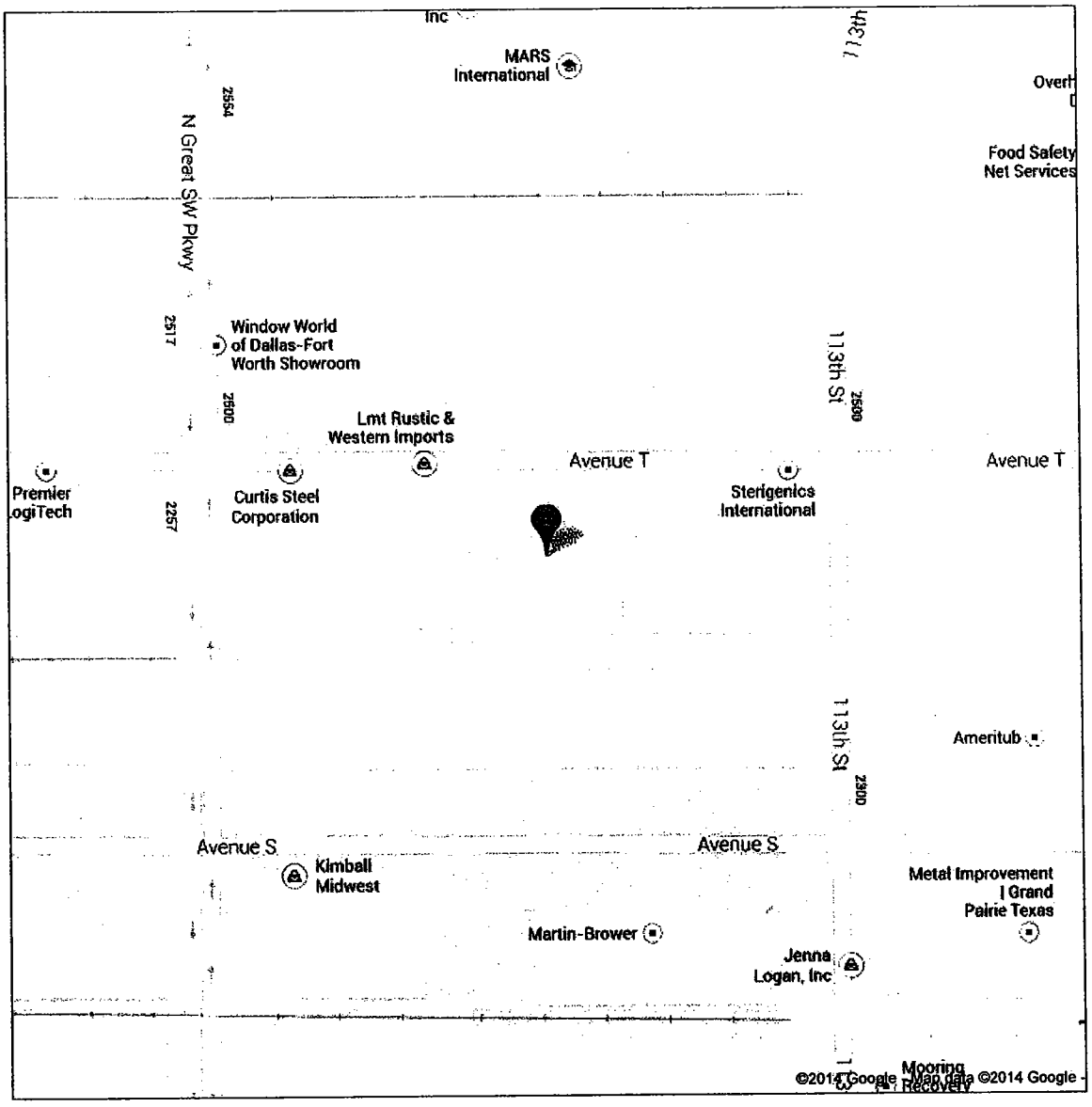


Grand Prairie, Texas



Google

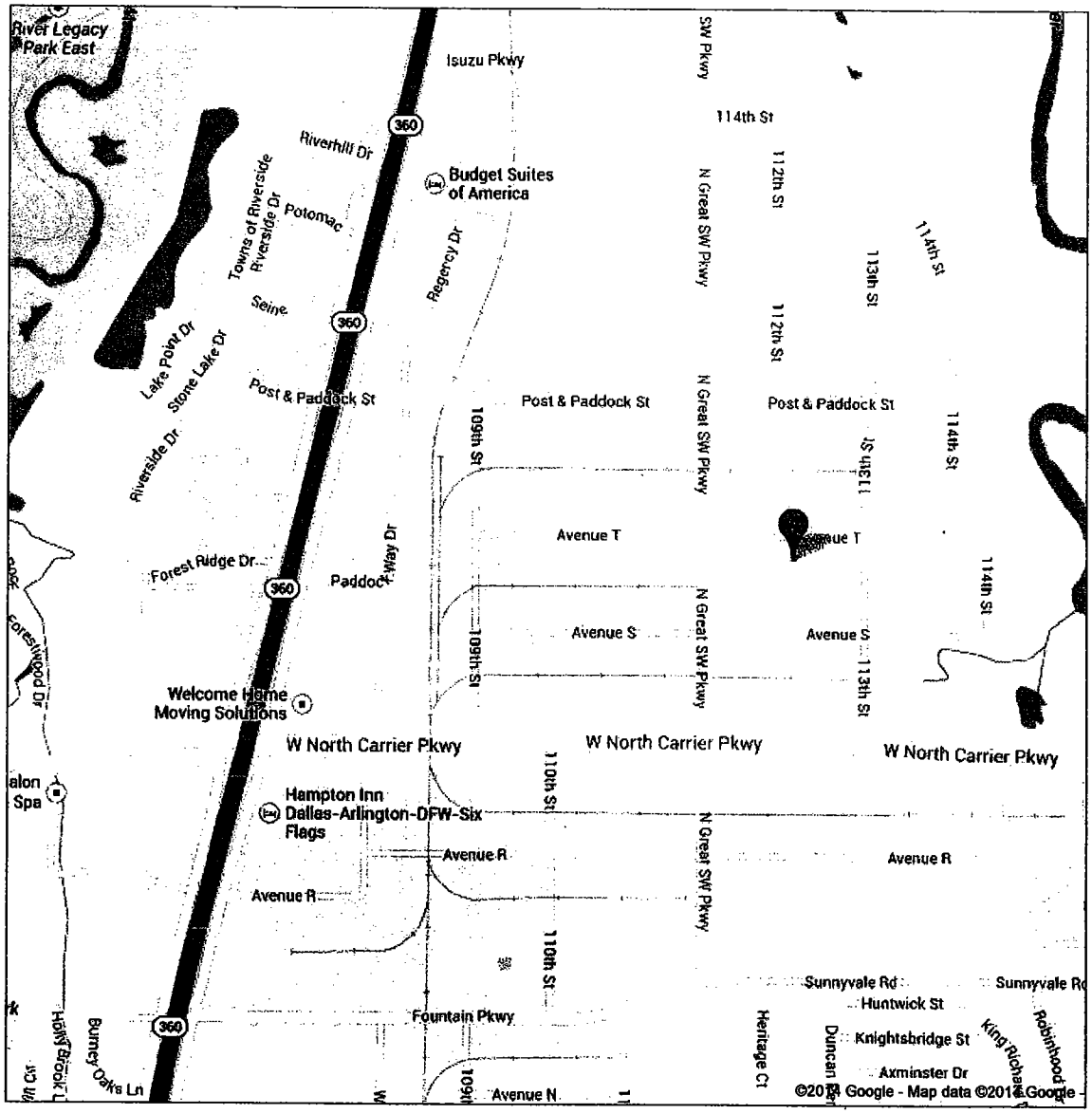
Address **1252 Avenue T**
Grand Prairie, TX 75050



Google

Address **1252 Avenue T**
Grand Prairie, TX 75050

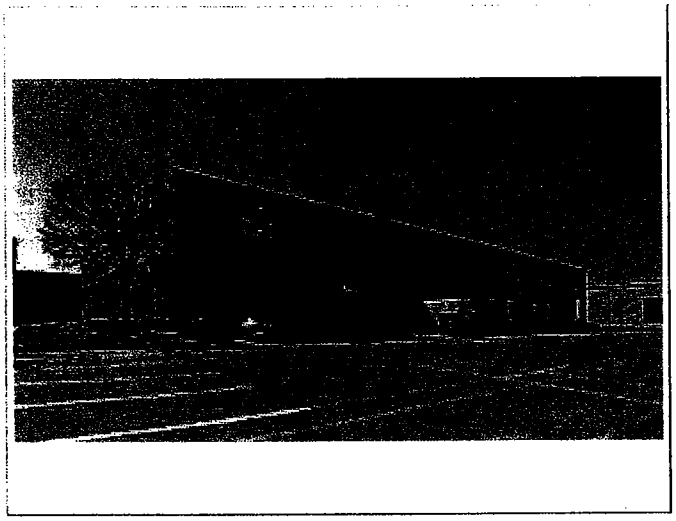
A = Sterigenics Leased Warehouse



Industrial Property For Lease

1252 Avenue T

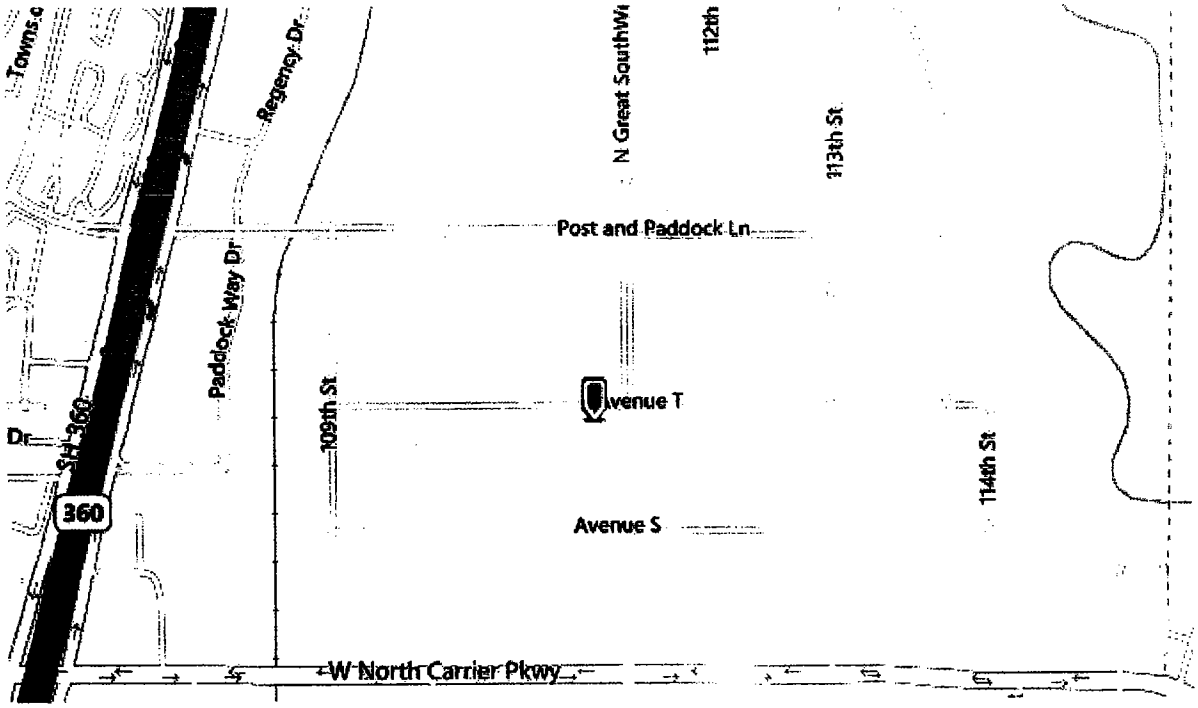
1252 Avenue T, Grand Prairie, TX 75050

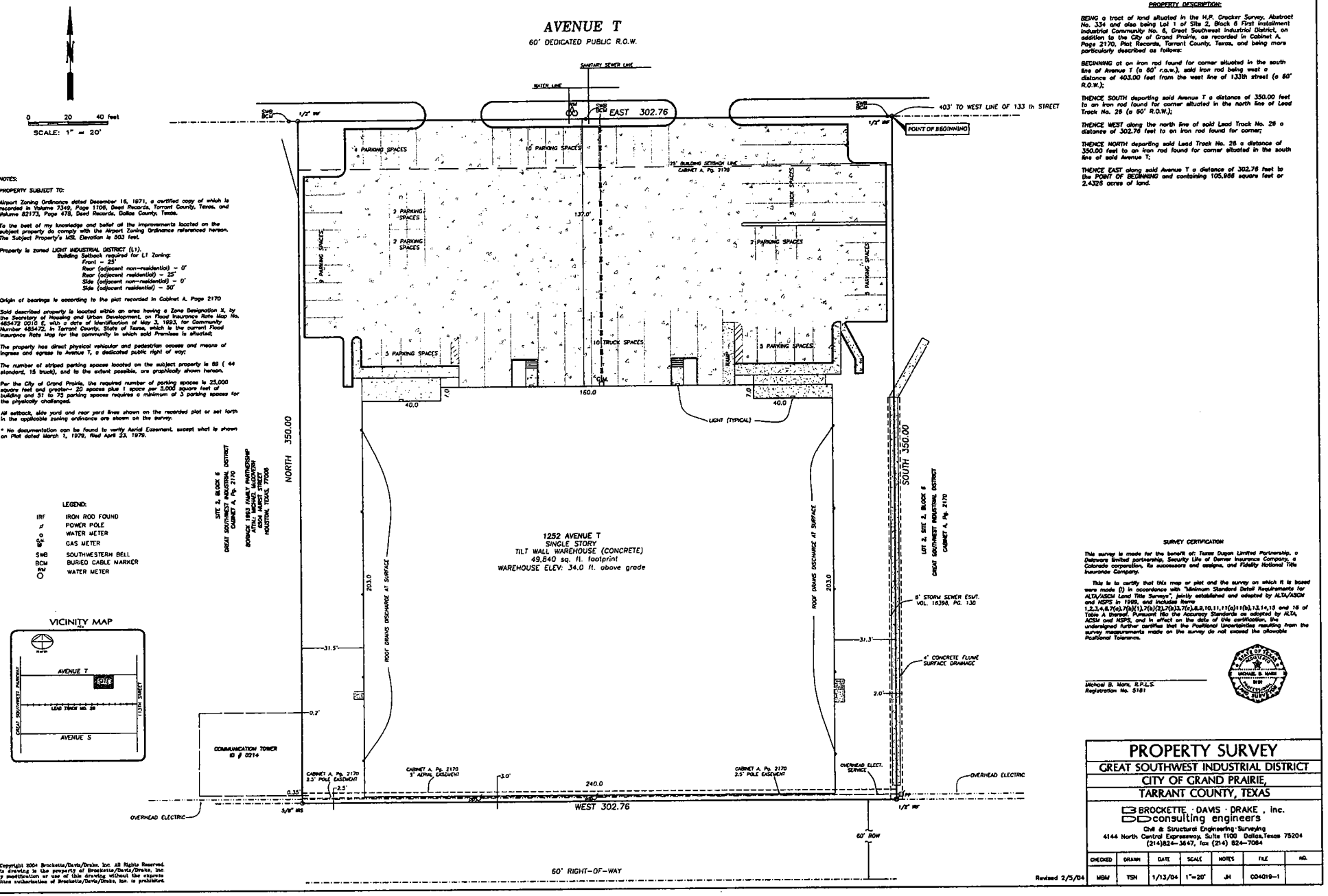


Total Space Available:	25,000 *SF*
Rental Rate:	$3.50 */SF/Year*
Property Type:	Industrial
Property Sub-type:	Warehouse
Building Size:	50,000 *SF*
Year Built:	1983
Listing ID	18562027
Last Updated	4 days ago

Find Out More...

Map of 1252 Avenue T, Grand Prairie, TX 75050 (Dallas County)





NOTES:

PROPERTY SUBJECT TO:

Airport Zoning Ordinance dated December 16, 1971, a certified copy of which is recorded in Volume 7349, Page 1106, Deed Records, Tarrant County, Texas, and Volume 82173, Page 478, Deed Records, Dallas County, Texas.

To the best of my knowledge and belief all the improvements located on the subject property do comply with the Airport Zoning Ordinance referenced hereon. The Subject Property's MSL Elevation is 303 feet.

Property is zoned LIGHT INDUSTRIAL DISTRICT (L1).
Building Setback required for L1 Zoning:
Front – 25'
Rear (adjacent non-residential) – 0'
Rear (adjacent residential) – 25'
Side (adjacent non-residential) – 0'
Side (adjacent residential) – 50'

Origin of bearings is according to the plat recorded in Cabinet A, Page 2170

Said described property is located within an area having a Zone Designation X, by the Secretary of Housing and Urban Development, on Flood Insurance Rate Map No. 48439 72 0010 E, with a date of identification of May 3, 1982, for Community Number 480477Z, in Tarrant County, State of Texas, which is the current Flood Insurance Rate Map for the community in which said Premises is situated;

The property has direct physical vehicular and pedestrian access and means of ingress and egress to Avenue T, a dedicated public right of way;

The number of striped parking spaces located on the subject property is 88 (44 standard, 15 truck), and to the extent possible, are graphically shown hereon.

Per the City of Grand Prairie, the required number of parking spaces is 25,000 square feet and greater-- 20 spaces plus 1 space per 5,000 square feet of building and 51 to 75 parking spaces requires a minimum of 3 parking spaces for the physically challenged.

All setback, side yard and rear yard lines shown on the recorded plat or set forth in the applicable zoning ordinance are shown on the survey.

* No documentation can be found to verify Aerial Easement, except what is shown on Plat dated March 1, 1979, filed April 23, 1979.

LEGEND:

IRF	IRON ROD FOUND
⌀	POWER POLE
WM	WATER METER
GM	GAS METER
SWB	SOUTHWESTERN BELL
BCM	BURIED CABLE MARKER
WM	WATER METER

PROPERTY DESCRIPTION:

BEING a tract of land situated in the H.P. Crocker Survey, Abstract No. 334 and also being Lot 1 of Site 2, Block 6 First Installment Industrial Community No. 6, Great Southwest Industrial District, an addition to the City of Grand Prairie, as recorded in Cabinet A, Page 2170, Plat Records, Tarrant County, Texas, and being more particularly described as follows:

BEGINNING at an iron rod found for corner situated in the south line of Avenue T (a 60' r.o.w.), said iron rod being west a distance of 403.00 feet from the west line of 133th street (a 60' R.O.W.);

THENCE SOUTH departing said Avenue T a distance of 350.00 feet to an iron rod found for corner situated in the north line of Lead Track No. 26 (a 60' R.O.W.);

THENCE WEST along the north line of said Lead Track No. 26 a distance of 302.76 feet to an iron rod found for corner;

THENCE NORTH departing said Lead Track No. 26 a distance of 350.00 feet to an iron rod found for corner situated in the south line of said Avenue T;

THENCE EAST along said Avenue T a distance of 302.76 feet to the POINT OF BEGINNING and containing 105,966 square feet or 2.4326 acres of land.

SURVEY CERTIFICATION

This survey is made for the benefit of: Texas Dupon Limited Partnership, a Delaware limited partnership, Security Life of Denver Insurance Company, a Colorado corporation, its successors and assigns, and Fidelity National Title Insurance Company.

This is to certify that this map or plat and the survey on which it is based were made (i) in accordance with "Minimum Standard Detail Requirements for ALTA/ASCM Land Title Surveys", jointly established and adopted by ALTA/ASCM and NSPS in 1998, and includes items 1,2,3,4,6,7(a),7(b)(1),7(b)(2),7(b)(3),7(c),8,9,10,11,11(a)11(b),13,14,15 and 16 of Table A thereof. Pursuant the Accuracy Standards as adopted by ALTA, ACSM and NSPS, and in effect on the date of this certification, the undersigned further certifies that the Positional Uncertainties resulting from the survey measurements made on the survey do not exceed the allowable Positional Tolerance.

Michael B. Mann, R.P.L.S.
Registration No. 5181

PROPERTY SURVEY

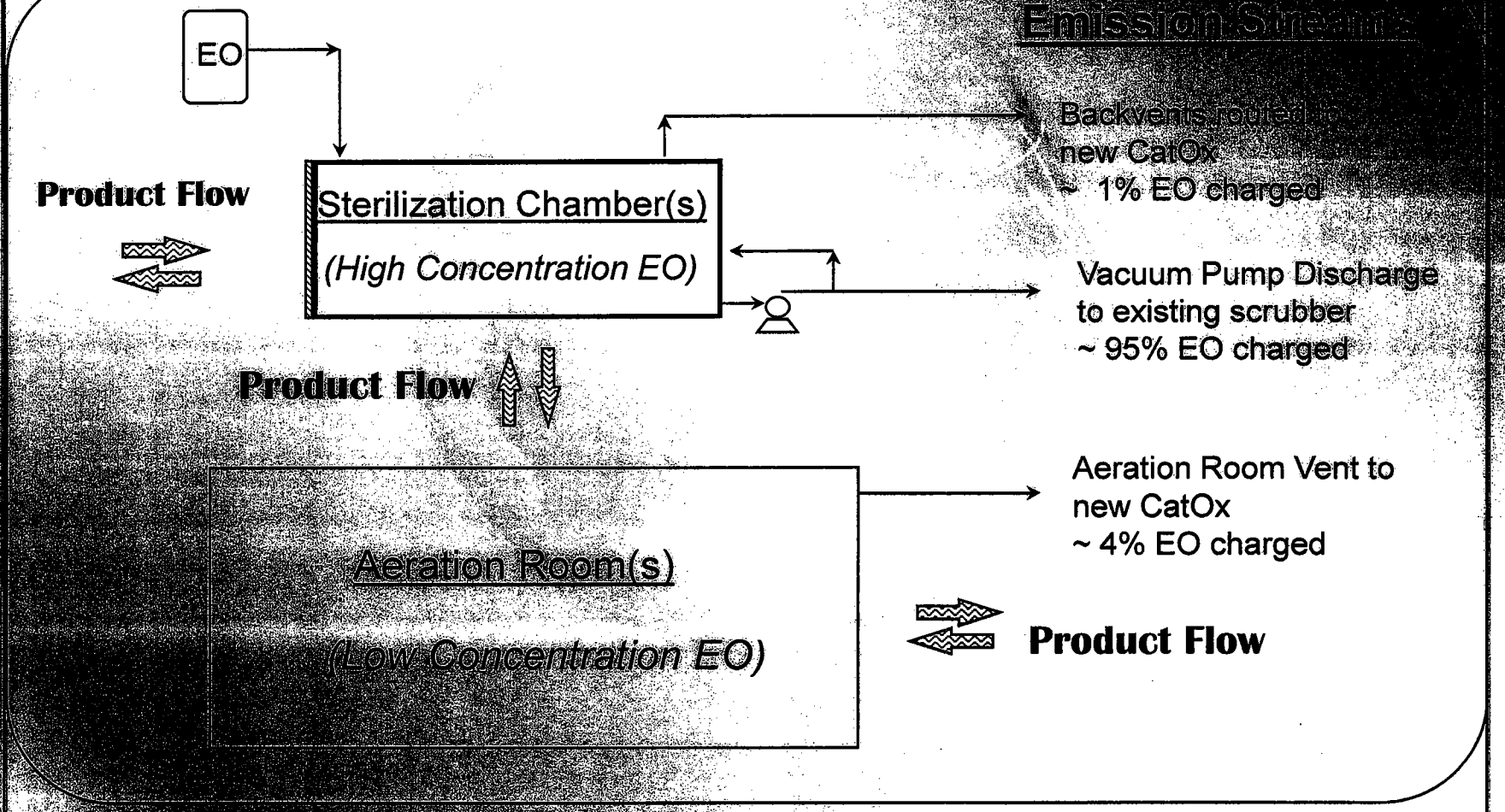
GREAT SOUTHWEST INDUSTRIAL DISTRICT
CITY OF GRAND PRAIRIE,
TARRANT COUNTY, TEXAS

BROCKETTE · DAVIS · DRAKE, inc.
consulting engineers
Civil & Structural Engineering · Surveying
4144 North Central Expressway, Suite 1100 Dallas, Texas 75204
(214)824-3647, fax (214) 824-7084

CHECKED	DRAWN	DATE	SCALE	NOTES	FILE	NO.
MBM	YSN	1/13/04	1"=20'	JH	C04019-1	

Revised 2/5/04

EO Sterilization Emissions



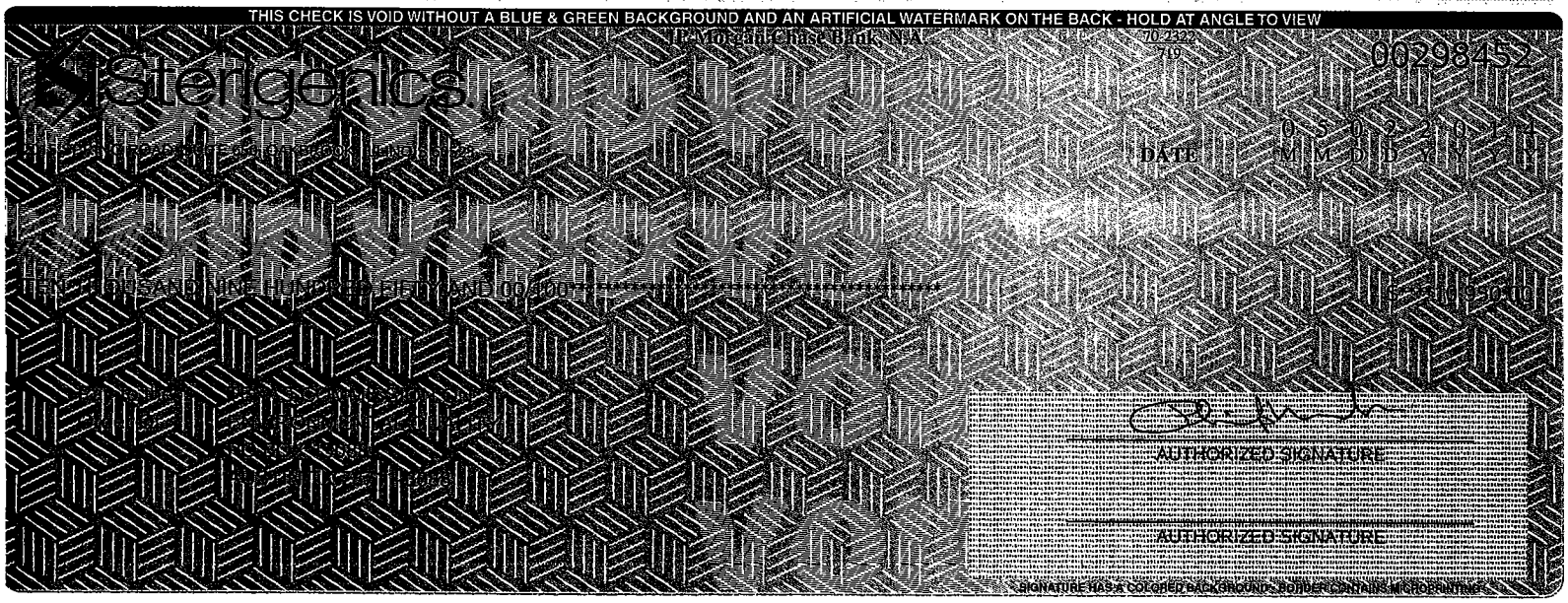
ONE Sterigenics.

STERIGENICS · OAKBROOK, ILLINOIS 05/02/2014 **Check No. 298452** 00298452

TEXAS COMMISSION ON

Document No.	Document Date	Amount	Discount	Net Amount
PERMIT APPLICATION FEE	05/01/14	10,950.00		10,950.00
			Total:	**10,950.00**

STERIGENICS · OAKBROOK, ILLINOIS 630.928.1700 · PLEASE DETACH CHECK AT THE PERFORATION BELOW



⑈00298452⑈ ⑆071923226⑆ 500731438⑈

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ing

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CLAUDINE EVANS
STERIGENICS
2015 SPRING ROAD
SUITE 650
OAK BROOK, IL 60523
UNITED STATES US

SHIP DATE: 10JUN14
ACTWGT: 0.3 LB
CAD: 455067/CAFE2704

BILL SENDER

TO FINANCIAL ADMIN / REV OPERATIONS
TEXAS COMMISSION ON ENVIRON QUALITY
MC-214
12100 PARK 35 CIRCLE, BLD A, 3RD FL
AUSTIN TX 78753

PO: EHS REF: ABSORB DEPT: EH&S

518C5/98C4/6F83

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CLAUDINE EVANS
STERIGENICS
2015 SPRING ROAD
SUITE 650
OAK BROOK, IL 60523
UNITED STATES US

SHIP DATE: 10JUN14
ACTWGT: 0.3 LB MAN
CAD: 455067/CAFE2704

BILL SENDER

TO TONY WALKER, REGIONAL DIRECTOR
US EPA REGION 4
2309 GRAVEL DRIVE

FORT WORTH TX 761186951

PO: EHS REF: ABSORB DEPT: EH&S

518C5/98C4/6F83

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TX-US DFW

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CLAUDINE EVANS
STERIGENICS
2015 SPRING ROAD
SUITE 650
OAK BROOK, IL 60523
UNITED STATES US

SHIP DATE: 10JUN14
ACTWGT: 0.3 LB MAN
CAD: 455067/CAFE2704

BILL SENDER

TO MR. JONI KEACH, SECTION DIRECTOR
TEXAS COMMISSION ON ENVIRON QUALITY
CITY OF DALLS, ENV.& HEALTH SERVICE
320 E. JEFFERSON BLVD, ROOM LL13
DALLAS TX 752032632

REF: ABSORB
PO: AIR POLLUTION CONTROL PROGRAM DEPT: EH&S

518C5/9BC4/6F03

FedEx Express

J121113052301 2E

TRK# 0201 5840 7511 1759

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STANDARD OVERNIGHT

XH DALA

75203
TX-US DFW

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